

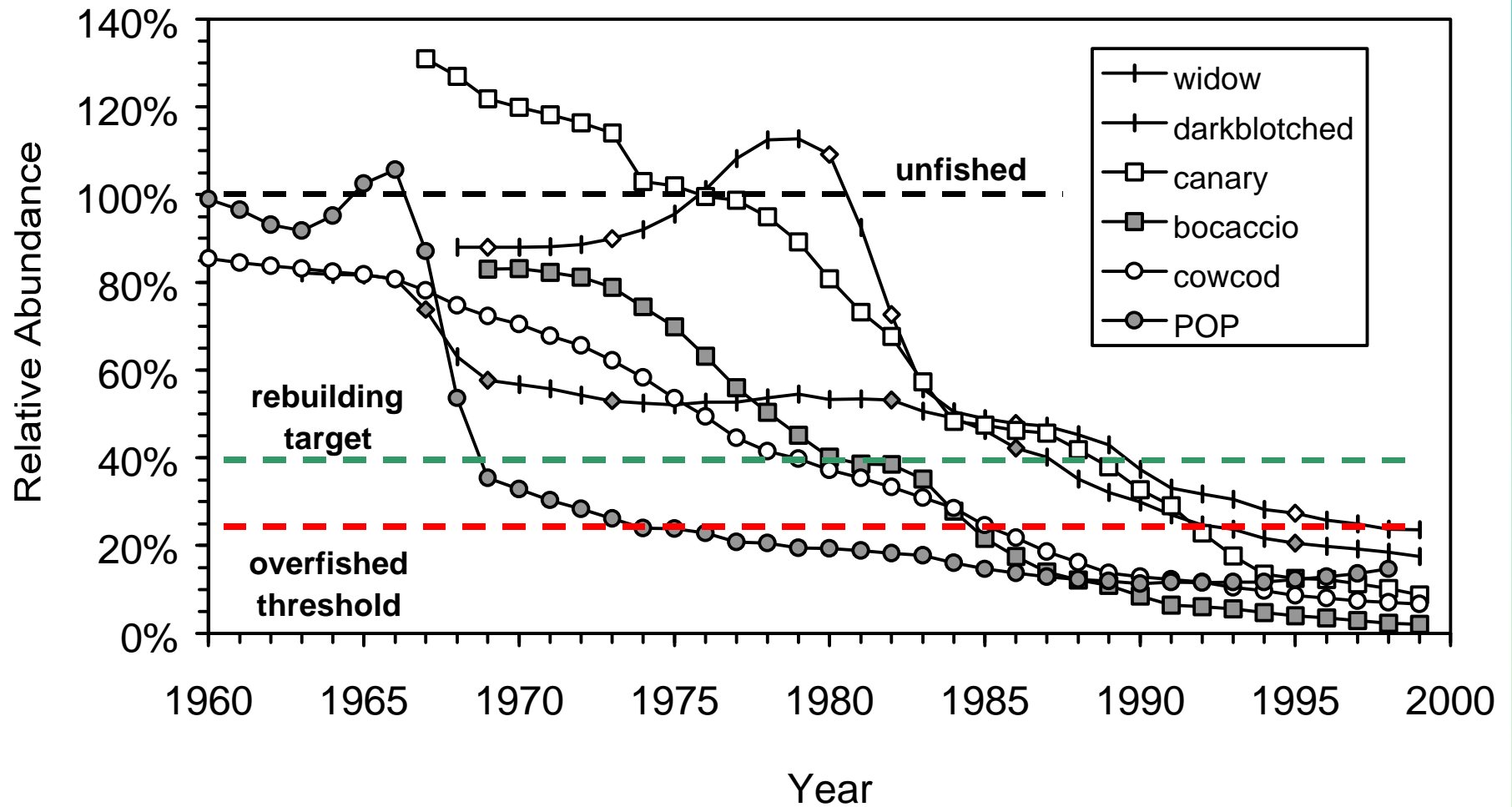
## **MPA Activities on West Coast**

- **Local Grassroots**
- **Regional (CINMS MRWG)**
- **State of California  
(Marine Life Protection Act)**
- **Pacific Fisheries  
Management Council**

# ***Marine Reserves to Supplement Management of West Coast Groundfish***

- ***Phase I--Conceptual Evaluation***
  - **Ad hoc Committee**
    - Identify objectives and Reserve alternatives
  - **Technical Analysis and Report**
    - Evaluate likelihood of meeting objectives
    - Evaluate design
    - Outline issues/elements/approach for Phase II
  - **Council**
    - Select options for Phase II or end process
- ***Phase II--Full Specification and Siting***

# Some Key Overfished Groundfish Stocks



## Limitations To Management

Interdecadal Variability in Recruitment

Multi-species Assemblages

Lack of Baseline Information

No Reference Sites for Research/Monitoring



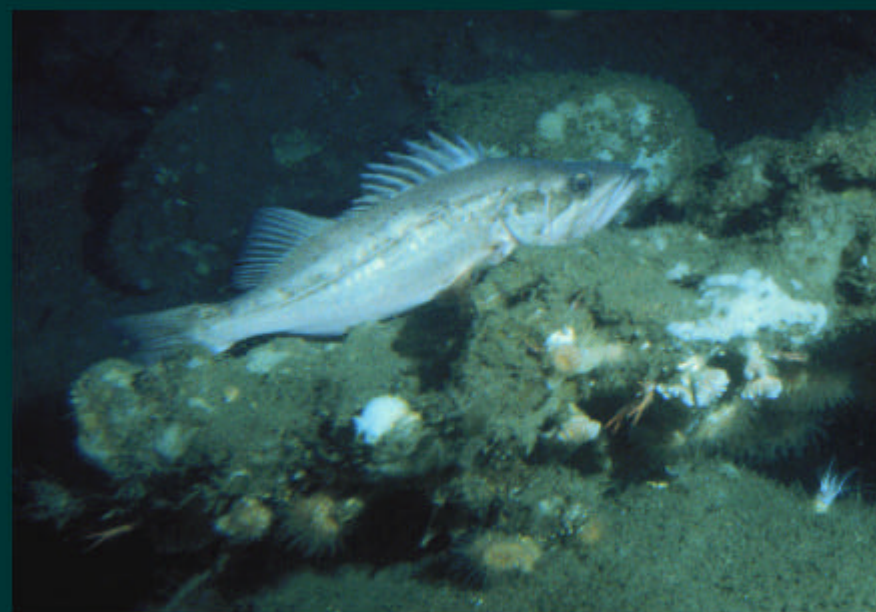
## ***Objectives--(priority order)***

- **Accelerate stock rebuilding**
- **Enhance biological productivity**
- **Enhance economic productivity**
- **Provide insurance**
- **Conserve and protect habitat**
- **Improve opportunities for research and education**



## **Current Circumstances:**

- Total Fishing Mortality Needs To Be Reduced
- EFH Should Be Identified and Protected
- Undisturbed Areas Are Essential For Monitoring and Research
- Insurance Is Necessary To Hedge Against
  - management uncertainties
  - information deficits
  - longterm environmental change



## **Benefits of Establishing Marine Reserves:**

- Might Be The Only Way To Rebuild The Overfished Component(s) of Multi-species Fisheries (while continuing fishery on healthy species)
- Protect Essential Fish Habitats
- Provide Undisturbed Reference Sites For Research and Monitoring
- Take a Precautionary Approach To Management (Providing Insurance)
- Incorporate Ecosystem Principles Into Management (Enhancing Biological Productivity)

## **If Adopted:**

**MARINE RESERVES NEED TO BE AN INTEGRATED PART OF THE GROUND FISH MANAGEMENT PLAN**

## Sources of Empirical Evidence of Reserve Effects



- New England Area Closures (17,000 km<sup>2</sup> since 1994)
  - West Coast
    - California (17 tiny no-take reserves; 0.3% state waters)
    - Oregon (1 tiny no-take reserve in Whale cove)
    - Washington (4 tiny no-take reserves in Puget Sound; 0.002-5.5 km<sup>2</sup>)
- There are no reserves in water >100 m on West Coast.**
- Elsewhere in world (many small no-take areas)

**We have no longterm no-take marine reserves of adequate size or location to fully evaluate effects and understand contributions to enhancement and conservation of fish populations.**

## **Areas of Additional Investigation**

- Models not complex enough to accurately assess reserve effect
- Most models assume total protection inside & above-optimum fishing mortality outside
- Data requirements for realistic models exceed current knowledge
  - area-specific reproductive success; recruitment; source-sink
  - age-specific mobility
  - multi-species effects
  - habitat-specific life history rates
- The models need to be tuned to local conditions
- Quantify economic and social trade-offs



A scenic view of a coastline. In the foreground, the dark, rippling water of the ocean is visible. In the middle ground, a multi-arched bridge spans across the water, connecting a rocky shore to the right. The background features steep, rugged mountains under a cloudy sky. A semi-transparent white box with a black border is overlaid on the left side of the image, containing text.

## California's Marine Life Protection Act

### *Ultimate Goal:*

*To increase the coherence and effectiveness of California's system of MPAs to protect marine life, habitat, and resources*

## Specific Goals

- 1) Protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems;
  - Help sustain, conserve and protect marine life populations, including those of economic value, and help rebuild those that are depleted;
  - Improve recreational, educational, and study opportunities that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity;
  - Protect marine natural heritage, including representative and unique marine habitats for their intrinsic value;
  - Ensure MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based on sound scientific guidelines;
- 6) Ensure that the State's MPAs are designed and managed, to the extent possible, as a network.

To meet these goals the MLPA Planning Team used three new classifications of marine managed areas:

- **State Marine Reserve** - Restrictions: it is unlawful to injure, damage, take or possess **any living, geological or cultural marine resource**, except under a permit or specific authorization from the managing agency for research, restoration or monitoring purposes.
- 2. **State Marine Park** - Restrictions: it is unlawful to injure, damage, take or possess any living or nonliving marine resources **for commercial exploitation purposes**. Any human use that would compromise protection of the species of interest, natural community or habitat, or geological, cultural or recreational features, may be restricted by the designating entity or managing agency.
- 3. **State Marine Conservation Area** - Restrictions: it is unlawful to injure, damage, take or possess any specified living, geological or cultural marine resources for **certain commercial, recreational**, or a combination of commercial and recreational purposes.



An underwater photograph showing a fish swimming through a dense field of kelp. The kelp has long, dark green blades that are slightly curved. The water is a clear, light blue. The fish is positioned in the center-left of the frame, facing left. It has a silver, elongated body with a slightly darker dorsal fin and a lighter underbelly. The overall scene is serene and natural.

Factors considered in developing initial draft concept:

- Habitat

- Size and Spacing of MPAs

- Practicality

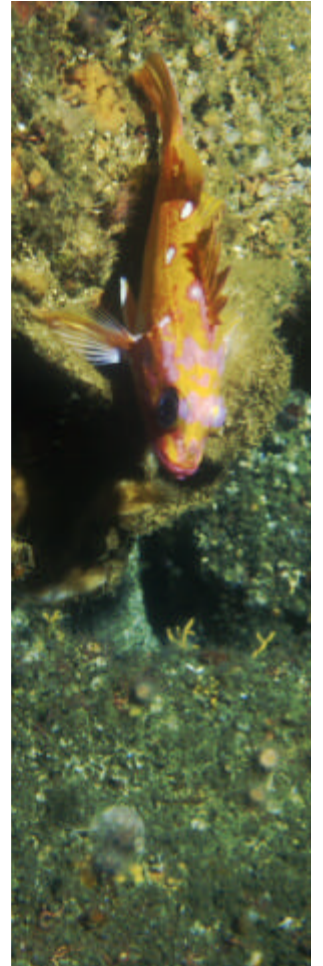
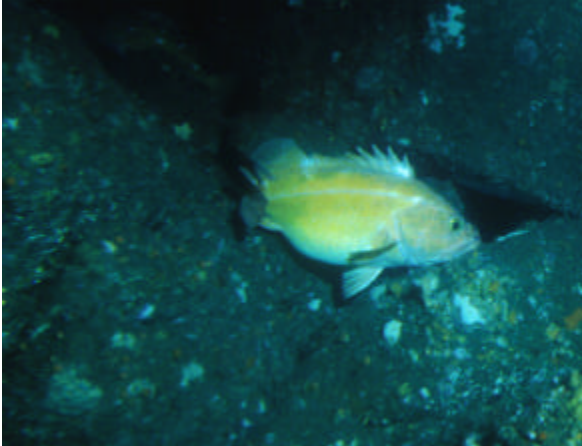
# Habitat

Include a *range of representative habitats*

## Emphasize

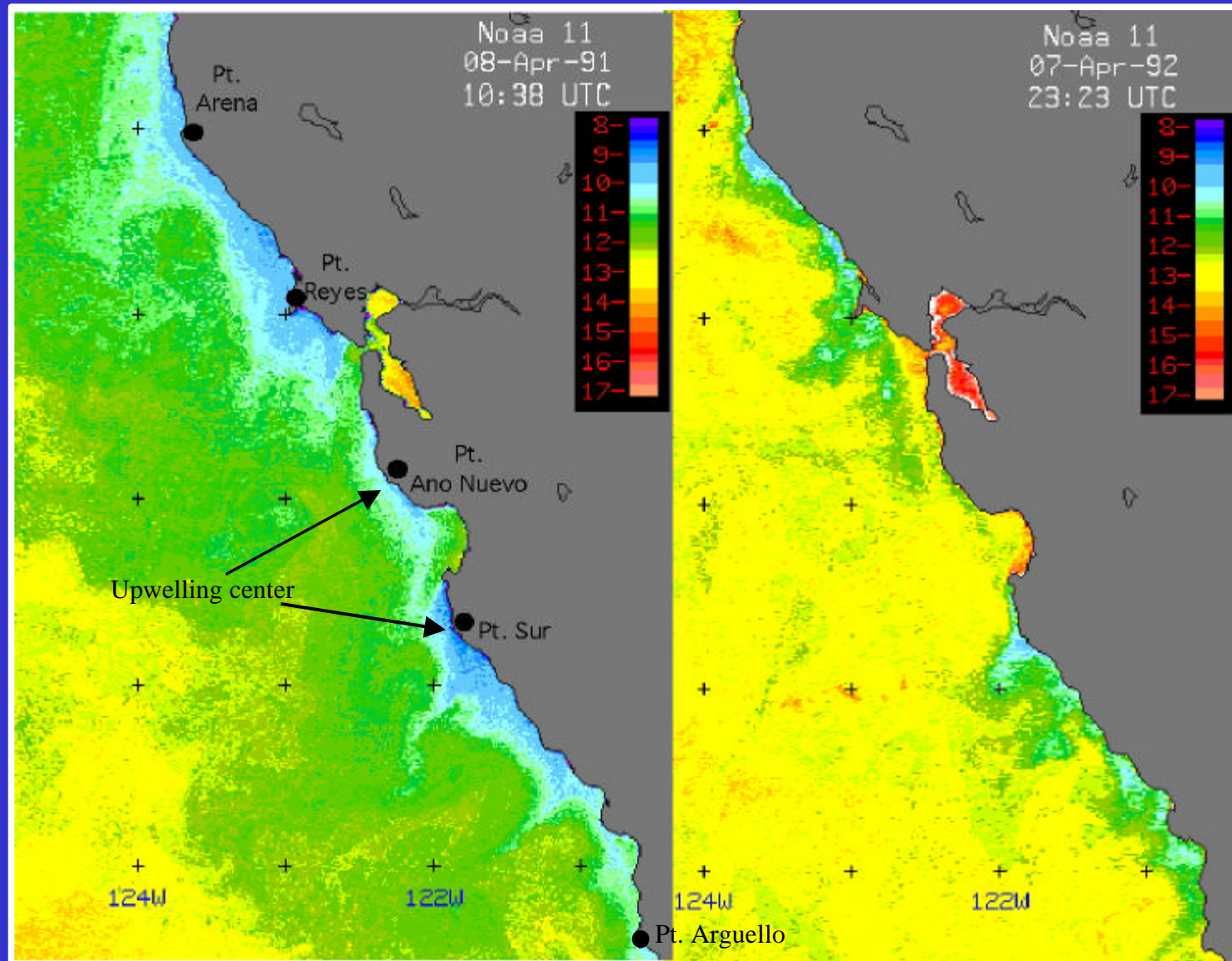
- Benthic habitats and resident species
- Habitats capable of supporting diverse and abundant populations
- Habitats of depleted and threatened or endangered species

Recognize unique habitats





2. Include a variety of ocean conditions such as upwelling centers, upwelling shadows, and exposed and semi-protected coastlines

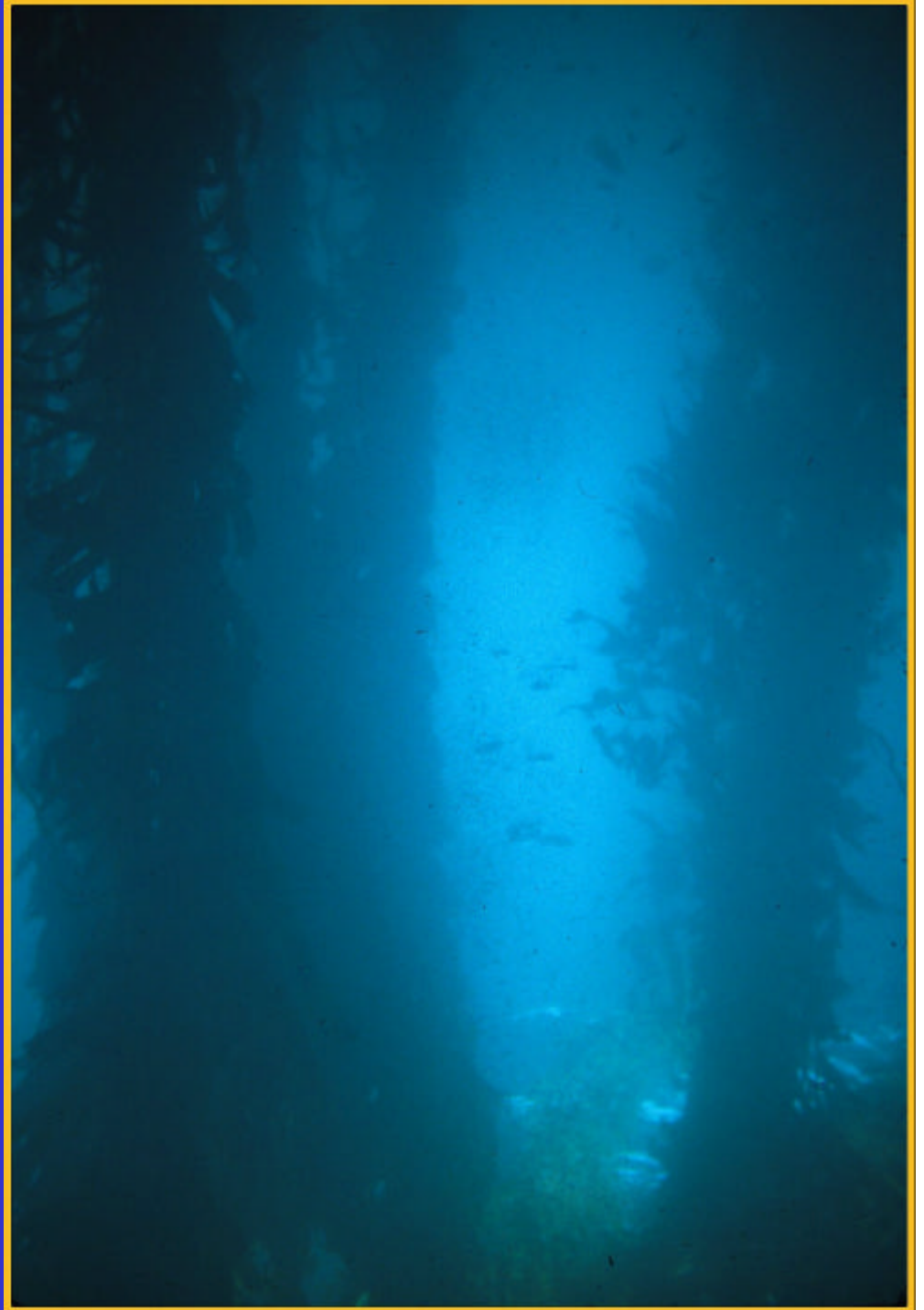


## MPA Size

Large enough to contain the movements of most residential species

Provide for favorable ratios of edge to area

Help to include a variety of available habitats within one MPA



## MPA Spacing

**Provide for a *network* of MPAs that:**

Represent habitats throughout the region

Enhance the possibility of larval dispersal from MPAs to nearby areas

Allow comparisons of fished and unfished areas throughout the region







## **Practicalities**

Incorporate or expand on existing MPAs

Simple and easily-recognizable boundaries

Onsite presence

Consider proximity to ports, points of access, and safe anchorages

Consider existing fisheries and non-extractive uses

Consider existing monitoring studies

## **Schedule of Events for MLPA Process**

**May 2000 –2002**

**Plan Team Meetings**

**July and Sept 2001**

**Public Workshops**

**January 2002**

**Draft Plan to F&G Commission**

**April 2002    Final Plan  
                    to Commission**

**July 2002    Adoption of  
                    Plan by  
                    Commission**

